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AUTHOR Rosenhouse, Judith  
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## ABSTRACT

A discussion of language teaching at the Technion Israel Institute of Technology emphasizes problems specific to the teaching of English, Hebrew, and Arabic, the main languages used in Israel. Three aspects of the program of instruction are examined. The first is the distinction between required and elective languages. English is required of all students, and Hebrew of all foreign students. Elective languages include German, French, Russian, Italian, Spanish, Arabic, and Yiddish. The second aspect is the differential goals of instruction in the various languages. Most English and some German, Russian, and French courses aim at developing the reading comprehension of scientific and technical texts for both undergraduate and graduate students, whereas other languages include active communication and general literature reading among their objectives. The third area of discussion involves learner problems related to the structural differences between languages (e.g., Arabic diglossia). It is concluded that learner problems arise from both language-external (i.e., institutional or administrative) factors and language interference, and that this situation exists to some extent in many Israeli institutions. (MSE)

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## LANGUAGES AT THE TECHNION AND PROBLEMS OF ADULT LANGUAGE LEARNING

Judith Rosenhouse

Dept. of General Studies

The Technion, I.I.T., Haifa 32000, Israel

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### INTRODUCTION

Language teaching (and linguistics) constitute an important part of the subjects taught at the Department of General Studies at the Technion, I.I.T. This area of teaching is examined here with special emphasis on problems specific to the teaching of English, Hebrew and Arabic, the main languages used in Israel. In this examination we deal only with the following angles:

1. Distinction between obligatory vs. selected languages.

Obligatory are Modern Hebrew for overseas students and newcomers and English for all Technion students. "Selected" languages are German, French, Russian, Italian, Spanish, Arabic and Yiddish.

2. Goals. Most English and some German, Russian and French courses aim at reading comprehension of scientific and technical texts for both undergraduate and graduate students, whereas other language include active communication and reading of general literature among their goals.

3. Individual differences between languages due to structural characteristics (e.g., diglossia in Arabic).

This description is a "case study of the situation at the Technion. We do not attempt comparison with the literature of other relevant subjects taught at the Department. Yet, the issue represents major problem areas as found in the literature of adult language learning.

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### 1. DIFFERENCES BETWEEN OBLIGATORY AND SELECTED LANGUAGES

The languages taught at the Technion and some facts about them are summarized in Table 1.

A basic dichotomy exists between languages considered a must for all Technion students, due to these languages' present and future status, and between language which may but do not have to be learnt. The discrimination between these two groups is best demonstrated by the attitude to teaching English and Hebrew. Despite the background of 8 years' English at primary and high-schools, and the matriculation exams, inter-student levels vary due to personal and educational factors. So, prospective candidate to any university in Israel have to take psychometric exams which include English. These exams help in placing candidates in the English classes at their individual levels.

At the Technion there are four levels of undergraduate and two graduate English courses. All students fulfill their requirements in English when they pass the Technical English/advanced courses.

Differences between levels are expressed in grammar and texts as well as in number of study hours per week. The main goal in these courses is reading comprehension. Since about 1986, the studied texts have become ST oriented, using texts with scientific/technological English, typical of each faculty.

Hebrew is similarly important, being the main official language in Israel and the mother tongue of native (Jewish) Israelis. It has therefore to be learnt by new-comers. Thus, overseas students also in the graduate school, learn Hebrew.

Here the beginners usually do not know any Hebrew or know just very little of it. They usually start from the beginning and within four terms learn how to speak and read Hebrew in a totally new alphabet to most students. They learn both general vocabulary and professional/technical vocabulary. Courses are very intensive: the first term is 15 weekly hours; other Hebrew courses require about 6-8 weekly hours.

German, Russian and French are three other languages which are considered as "general studies" (not obligatory by undergraduate students). But one of them has to be learnt as a foreign language in partial fulfilment of the requirements of graduate studies (D.Sc.) besides English. As shown in Table 1, goals of graduate and undergraduate student courses in French, Russian and German differ as well as their teaching materials and methodology. But all language courses for graduate students seem to share the same basic goal, i.e., reading comprehension of scientific material.

Arabic, Spanish, Yiddish and Italian belong to a different group: they are not formally required at the Technion.

Still, there are four courses of Arabic, mainly colloquial Arabic (2 levels and an LSP course for medical students, cf. Rosenhouse, 1989a, 1989b), but also one on literary Arabic. The other languages in this group have usually two classes each (Table 1). Arabic is special in this group for it operates on two levels -- the colloquial daily speech and the literary/written one. Due to this dichotomy, these subjects (registers) are taught separately.

On the whole, we see that languages studied at the Technion are not learnt "per se" but for functional goals, such as reading comprehension or professional texts in the obligatory courses. Oral communication on daily matters, which requires productive skills, is mainly found in the "selective" language courses.

## 2. PROBLEMS OF LANGUAGE LEARNERS AT THE TECHNION

Some of the problems of Technion students, i.e., adult language learners, are common to all adult language learners and some are specific to this group of learners, as shown in Table 2. We shall not dwell here on general learners' problems (see e.g., Krashen, 1981) but on "external institute- or country-related factors. These are discussed here by the language groups and demonstrated by examples.

2.1. Problems in English courses 1. In contrast with the theory that students would find English less difficult to study as they have already studied it at school, the adaptation process to the demands of the new institute includes English. 2. Many students take this language in the first year of study when they are still concentrating on basic and general scientific subjects at academic level. The faculty-oriented texts may cause comprehension problems of topic which have not yet been scientifically studied.

3. High-schools do not teach reading comprehension of technical papers, which causes some difficulty in taking this new "genre" in.

4. One of the important sources of difficulty for Israeli students as readers of English is simply insufficient vocabulary (see Laufer, 1989, Bensoussan and Rosenhouse, 1987).

(In spite of these difficulties, many students are happy to learn stimulating texts which are relevant to their professional interests).

Work done by English teachers at the Technion (Machauf, 1981, Sandler, 1986) has shown that native Hebrew speakers' problems in the Technion are similar to those of many other learners (Levenston, 1970). Some problems, as error types indicate, may be defined as typical of their "interlanguage stage" (Selinker, 1972) Other problems are due to the interference of students' native language(s), whatever they are. Let's cite a few examples here. Machauf (1981) reports for native-Hebrew speakers e.g., \*"I work there for two years now" (in Hebrew the verb system does not explicitly mark the present perfect tense); \*"The energy nuclear can help humanity" (Hebrew word order requires the adjective to follow its head noun, unlike English). Many examples reveal misused prepositions in fixed idioms e.g., "To my opinion", "prefer the Technion on the university", "in a low price", "afraid from". or infinitival "to" in e.g., "must to study". (Sandler, 1986 cites more examples). But e.g., Labow (1972)

cites similar phenomena in the speech of adolescent black English speakers. So, we may assume that these issues are generally hard to learn and not just for those with Hebrew as L1.

Similar errors are found also in other language courses at the Technion (see below) which support the view that they are not necessarily typical of native-speakers of a certain L1.

2.2. Hebrew learners' problems 1. Language interference is a widespread phenomenon reported by students who learn Hebrew as L3 for whom English is L2. As English is obligatory at the Technion, they often take it in the first terms simultaneously with Hebrew. As a result many students complain of mixing Hebrew with English and vice versa, and deteriorated general performance in English after beginning their Hebrew courses. This interference was so severe that both English and Hebrew teachers of the Department wrote an official request for a special permission for newcomer students not to take English at the same time as the Hebrew courses.

2. Immersion: As Hebrew is the major language in the country, these students are immersed in a Hebrew-speaking environment. Hebrew is thus reinforced outside the class unlike English. This situation is bound to yield different levels of student achievements and differentiated problems in each of these 2 languages (as noted above).

3. Different L1's of students of Hebrew are e.g., Spanish, French, Russian or English. Their errors and reactions to Hebrew vary in partial correspondence to features of their mother tongues.

4. A recurring Target Language problem shared by many of these non-Israeli students, whatever their mother tongues, is the Hebrew passive transformation. Though the syntactic notion is similar to many other languages, the morphology is not always predictable and certain passive forms have to be learnt as lexical items rather than as a grammatical general rule. Students' annoyance may be due to this arbitrariness.

2.3. Problems in French As English and French are related and Israeli students (as well as others) usually know English before French, interference errors tend to relate more to the "faux amis" type between the two languages than to grammatical issues, though these also exist. Thus, typical examples are, e.g., "j'ai reste a la maison" translated by students as "\* have rested at home (for "remained"); or "travailler" translated by English "travel". Syntactic interference from Hebrew occurs mainly with governed prepositions by verbs, as noted above (e.g., \*"attendre a quelq'un as Hebrew /hika le-misehu/, or \*"regarder a quelq chose" as Hebrew /histakel be-masehu/). Also, etre and avoir, the French copula and auxiliary verb, cause some problems to those students who are still uneasy also about the English copula and auxiliary usage (Hebrew differs in this issue from both these languages).

2.4. Problems in "selected languages" 1. Students, who chose to learn a language, are not required to study it for more than one term. In one term, i.e., 14 meetings of 2-3 hours (according to the language) it is not likely that students can learn much more than the basics of a language. This statement is true for all language areas. One term is hardly enough to make them pass from receptive to productive language use for the long run. Though in e.g., Arabic, French and German, students (even beginners) speak from the first lesson, as a result of the teaching method, typical expected learners' errors occur. Anything beyond basic structures is quickly blurred even by inter-term breaks as I have noted by students who were learning the same language at the higher level courses.

2. Even if students wish to go on studying a language the scope is limited simply because of the availability of courses (only 2-3 terms i.e., levels per language). This problem raises the question about the ultimate goals of these language courses. This question has nothing to do with students' motivation to learn the language. Many students

prefer languages to other "general studies" such as history, philosophy, literature, art or music etc. Indeed, students' motivation has recently led to opening the courses in Yiddish and Spanish.

3. Even if students are highly motivated to learn a language, it has a relatively lower priority than faculty subjects or even the obligatory English/Hebrew. This fact restricts their ability to devote time to language learning. This observation is not new, but nevertheless, this is one of the factors that restrict students' achievements as adult learners. This problem is often further stressed here by most students' need to support themselves (and families).

2.5. Language-specific problems 1. In our Arabic courses we see some interesting errors revealing linguistic interference. For most students in these classes Hebrew is L1 English is L2 and Arabic L3. Being a Semitic language, Arabic is basically similar to Hebrew, which should help learning. Yet, recurring errors show English interference. The errors appear mainly in the following linguistic areas:

1. Noun Phrases. In both Hebrew and Arabic an NP noun precedes the adjective. Also the numeral "one" is governed by this rule. In contrast, in English adjectives precede the noun. Many student errors are however of the type of e.g., "the green the book", instead of the required "the book the green" (In English classes students often do the opposite, and use a Hebrew structure instead of the English one.)

This point reflects both syntactic and morphological levels. It shows why Hebrew-speakers find it hard to learn this English structure, but does not explain these students' errors in Arabic.

2. Particles, Conjunctions, Prepositions. In any language basic words are "yes, no, and, but, or". In Arabic these are /'aywa, la, u, bas, (also /laakin/), willa/, respectively. P't sometimes students answer by the English equivalents instead of the Arabic ones. The most recurrent form is "but" for "bas" which is phonetically similar enough to the English

word to "justify" this transfer. This phenomenon may be explained in the fact that these students are "switching" languages while trying to speak the new language. As English is a well internalized "foreign language", it is often associated with "speaking a foreign language" and is more quickly retrieved from the long-term memory for use than elements in the new language.

Preposition government is also an arbitrary element which has to be memorized by rote and seems to be difficult for any learner of any foreign language (as already noted, and see above). And here, too, students sometimes say English "in" for Arabic /fii/. But such errors are less frequent even by beginners than errors in particle use.

These errors show a difference in the learning (memorizing process) and use of these word types in cases of more than two languages. Usually, basic communication needs require noun and verb memorizing, while particles which belong to the "arbitrary" elements of a language are less crucial to its semantic component. Apparently this is why they are less easily remembered. This fact is similar to mother tongue acquisition process by young children. Early vocabulary first fills up with more nouns, verbs and adjectives than with other lexical items. Furthermore, fixed prepositional phrases are often initially learnt by children as complete lexical units and transferring their meaning from L1 to another language at a later stage requires a "new learning" process.

3. "Faux amis". An interesting case of "faux amis" between Arabic and English is the word /we:n/ (where?). The partial semantic/syntactic similarity besides the phonetic similarity seem to confuse the students so that many of them answer by temporal phrases. This error seems to be motivated by a procedure similar to that which makes student use English particles instead of Arabic ones, namely, "thinking in a foreign language", which implies for them, first of all, English.

More frequent "faux amis" error type (if it may be called so) is caused by literary Arabic interference, which part of the students have learnt at school. Whatever remains in their long-term memory is usually not the correct form, mainly syntactically and phonetically. But they are strong enough to interfere with colloquial forms and rules.

Such errors occur mainly by beginners or "poor learners", who have a difficulty in memorizing quickly new lexical items

### 3. SUMMARY AND CONCLUSION

The paper describes language teaching at the Technion. In such an academic institute languages are taught mainly to answer functional needs. The scope of language courses is limited in time and teaching and testing methods are mostly formal. Still, modern techniques are applied (e.g. the language lab, films) to make learning more efficient.

Differences have been found between obligatory/selected language courses in goals, material selection and testing methods: reading comprehension vs. "productive skills". A large proportion of the course in both groups concentrates on developing receptive rather than productive skills.

Adult language learning difficulties often reflect external problems but also linguistic interference phenomena typical of their preliminary stage of linguistic knowledge for relatively often they are not monolingual. Their errors in part reflect relative similarity and dissimilarity between their L1 and general linguistic background, and the studied language. Especially noted here were interference symptoms of L2 on L3 in the Arabic class. "Interlanguage" problems, also described here, tend to diminish as students' language proficiency improves though they may reappear now and again in "advanced" classes.

To sum up, this paper reflects a situation that (more or less) exists also in other Israeli universities.

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Table 2. Factors Involved in Students' Language Learning Problems

*Age:*

Usually above 20 (post adolescence)

*Sex:*

Males tend to have more language difficulties than females.

*Other Pressures:*

Faculty studies more imperative, more crucial. Many students work to support themselves and their families.

*Learning Duration:*

Varies between 1-4 terms, with limited hours per week.

*Motivation:*

Often high, especially in selected language courses, but limited by external pressures.

*Dominant Language:*

Hebrew is used outside the class in students' ordinary environment. For learners of Hebrew this supplies further support ("immersion"). Explanations for native-speakers of Hebrew tend to be in Hebrew (especially for beginners).

*The Studied Language:*

Usage of the language studied in the class is restricted to reading comprehension, mainly. Phonetic aspects are therefore less stressed in the learning process.

*Linguistic Background:*

The language learnt at the Technion may be the student's L1, L2 or more. This has the potential for inter-language interference phenomena.

*Inter-language Relations:*

If L1 and the Studied L are related to each other, errors of the "faux amis" type may occur, also on the grammatical level.

Unrelated L1 and Studied L require more learning effort on the part of the student.

Language switch errors often occur.

TABLE 1. SUMMARY OF LANGUAGE STUDIES AT THE TECHNION

<u>LANGUAGE NO.</u>	<u>N. CLASSES</u>	<u>LEVELS</u>	<u>STUDENT N. per year</u>	<u>MATERIAL</u>	<u>GOALS</u>	<u>OBLIGATORY</u>
HEBREW	4	4	150(underg) 30(grad.)	journalistic, technical, ordinary	READING + SPEECH	+
ENGLISH	30 2	4 2	2500 (under). 300 (grad.)	technical + scientific	READING (SPEECH)	—
FRENCH	3 1	3 1	180(underg) 100 (grad.)	technical + scientific	SPEECH, READING	+Grad.
GERMAN	3 1	3 1	90(underg) 100 (grad.)	ordinary, technical	SPEECH, READING	+Grad.
RUSSIAN	4	4	90 (underg). 5(grad.)	ordinary technical	SPEECH, READING	+grad.
ARABIC	4	4	100 (underg.)	ordinary, journalistic	SPEECH (READING)	—
ITALIAN	2	2	140 (underg.)	ordinary	SPEECH, READING	—
YIDDISH	1	1	70 (underg.)	ordinary	SPEECH, READING	—
SPANISH	2	2	140 (underg.)	ordinary	SPEECH, READING	—
1/2/Week	ENG. HEBR. 3, 4, 5	FREN. GERM. 3 3	RUSS. ARAB. 3 2	YIDD. ITAL. 2 2	SPAN. 2	
TEACHING DEVICES	-LAB (+LAB	+LAB, A.V. (both langs.)	+LAB, A.V.	—	—	—

**Appendix 16**

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